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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,816	04/16/2004	Ho-In Kim	5000-1-574	8684
33942 7590 05/17/2007 CHA & REITER, LLC 210 ROUTE 4 EAST STE 103 PARAMUS, NJ 07652			EXAMINER TRAN, CHUC	
			ART UNIT	PAPER NUMBER
			2821	
			MAIL DATE	DELIVERY MODE
			05/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/825,816

Applicant(s)

KIM ET AL.

Examiner

Chuc D. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-11 and 13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-7 and 13 is/are allowed.
- 6) ☒ Claim(s) 1,3 and 11 is/are rejected.
- 7) ☒ Claim(s) 8-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claims 1, 3 and 11 are withdrawn in view of the newly discovered reference(s) to Bang and Uchida (USP. 5,757,832). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Bang (USP. 6,771,681).

Regarding claim 1, Bang disclose a gain-clamped-semiconductor optical amplifier in Fig. 3, comprising:

- a gain waveguide layer (350) for amplifying an optical signal input to the gain waveguide (Col. 1, Line 20);
- a grating layer (320) having first grating (330) disposed at a first end portion (Fig. 3) and second grating (340) disposed at a second end portion of the grating layer (Fig. 3); wherein the gain wave guide (350) is disposed in a direct contact with the first and second grating (330, 340) (Fig. 3) have reflection factors different from each other (Col. 3, Line 3-13).

Regarding claim 3, Bang disclose that a clad (380) laminated on the gain waveguide (Fig.

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3).

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 11 is rejected under 35 U.S.C. 102(b) as being anticipated by Uchida (USP. 5,757,832).

Regarding claim 11, Uchida disclose a gain-clamped-semiconductor optical amplifier in Fig. 13, comprising:

- a gain waveguide layer (303) for amplifying an optical signal input to the gain waveguide (Col. 11, Line 23);
- a grating layer (302) having a first grating (307) disposed at a first end portion of the grating layer (Fig. 13); and
- non-reflection layers (311) (Col. 13, Line 1-4) disposed on two portion of the semiconductor optical amplifier (Fig. 13); wherein the gain waveguide is disposed on the grating layer in a direct contact with the first grating (Fig. 13).

Allowable Subject Matter

5. Claims 5-7 and 13 are allowed.

6. The following is a statement of reasons for the indication of allowable subject matter:

Prior art fails to disclose or suggest in combination with the remaining claimed limitation: a mode conversion region formed at one end portion of the gain waveguide, the mode conversion region having a width which becomes narrower or wider as it goes to an end adjacent to the semiconductor optical amplifier in claim 5, claim 6-7 are allowed since they are dependent on claim 5.

Prior art fails to disclose or suggest in combination with the remaining claimed

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limitation: a non-reflection layer disposed on a first end surface of the semiconductor optical amplifier, the first end surface of the semiconductor optical amplifier, the first end surface serving as an input/output side of the semiconductor optical amplifier; and a high reflection layer disposed on a second end surface of the semiconductor optical amplifier in claim 13.

7. Claims 8-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuc D. Tran whose telephone number is (571) 272-1829. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Owens can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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TC
May 13, 2007

Douglas W. Owens 5/14/07

DOUGLAS W. OWENS
SUPERVISORY PATENT EXAMINER